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Proposed Transfer Of Indian Schools Draws Criticism

Responsibility Would Shift To Tribes, Local Districts

By James Crawford

WASHINGTON—Assistant Secretary of the Interior Ross O. Swimmer traveled to Arizona and New Mexico last week to promote the Bureau of Indian Affairs' plan to get "out of the education business" in 1988 by transferring the schools it now operates to Indian tribes or public school districts.

But the trip appeared to produce few converts, as reactions among Indian educators and tribal leaders ranged from skepticism to outrage, and state education officials remained noncommittal, citing a lack of information about how the transfers would work.

About 40,000 students, or 10 percent of Indian children, are now enrolled in 181 B.I.A. schools in 23 states. But the main impact of "localizing" control of the schools would be in three states—Arizona, New Mexico, and South Dakota—where two-thirds of the facilities are located.

The plan, which would require no Congressional approval but which could be blocked by lawmakers, has been received with "a healthy dose of concern" on Capitol Hill, according to a House Democratic aide.

After meeting with Mr. Swimmer to discuss the idea last week, Garrey E. Caruthers, the new Republican Governor of New Mexico, "hasn't reached any decision about his feelings on it," according to the Governor's press secretary, Michael Cook.

Meanwhile, critics were accusing the Reagan Administration of seeking to terminate

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Mathematics Scores Show U.S. Is a 'Nation of Underachievers'

By Robert Rothman

WASHINGTON—Educators meeting here last week called for a major overhaul of the K-12 mathematics curriculum that would transform "a nation of underachievers" into "a nation of mathematics achievers."

Responding to new international studies showing that the performance of U.S. students lags far behind that of students in other industrialized nations, particularly Japan, the educators suggested that achievement levels could be raised by a curriculum requiring students to master topics sequentially and move more quickly to advanced material. (See charts, page 20.)

In addition, the educators urged a greater emphasis on math instruction in the early grades, including the use of math specialists in elementary schools; an increase in the preparation time allotted teachers; and a change in attitudes to demand higher standards of mathematics performance.

"There must be fundamental curriculum

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Experts seek a total overhaul of the curriculum, which they say "lacks challenge and vitality."

Long Overlooked, Special Education May Soon Get Reformers' Attention

By Debra Viadero

Overlooked by all but one of the major documents of reform, special educators have spent most of the movement's first decade pondering the question of where they fit in.

It has been, says one policy analyst in the field, "almost like special education does not exist to the rest of the education world."

Now, however, the indifference may be lifting.

Both the American Association of Colleges for Teacher Education and the Council for Exceptional Children will convene

task forces next month to draft position papers on how teacher-reform efforts should address special education.

And members of at least two prominent reform groups, the Carnegie Forum on Education and the Economy and the Holmes Group, are said by some panelists to be likely to consider the question in some form this year.

But the volatile nature of the field—indeed, its very "specialness"—may add layers of complexity to the task of teacher reform, say those most knowledgeable.

"It's such a complex issue that I just don't

Continued on Page 21

State Tax Reforms Are Likely in '87, Legislators Say

Changes May Be Linked To School Improvements

By Tom Mirga

WASHINGTON—The historic revision of the federal tax code last year, combined with deteriorating economic conditions in some areas of the country, is expected to make 1987 a landmark year for state tax policy, concludes a new report by the National Conference of State Legislatures.

"Tax analysts across the nation will be busy in 1987 as their state lawmakers struggle to balance their budgets and enact provisions to respond to federal tax reform," the authors of the study write.

See stories on state-of-state messages, beginning on page 8.

The conclusions in the report, released here last week, were drawn from information collected from legislative and budget analysts in 44 states who last August were asked their views on probable fiscal initiatives in their states.

The anticipated wave of state-level tax reform has major implications for the financing of the nation's elementary and secondary schools. Public schools now derive about 48 percent of their revenues from state sources, compared with 45 percent from local taxes and 7 percent from the federal government.

Governors in several states have already linked proposed changes in their states' tax structures to ambitious education-reform proposals.

In Indiana and Washington, for example, new taxes on service industries would help finance multi-million-dollar reform bills. And in Maryland, the incoming Governor has proposed holding on to part of the anticipated revenue "windfall" brought about by the federal tax-code change to finance education and social-service programs.

Meanwhile, in such economically depressed states as Texas and Alabama, lawmakers are faced with the choice of raising

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Also in the news

5 Who Will Teach? History Suggests Some Answers

In a review of previous trends in teaching, a new RAND study suggests that the women's and civil-rights movements could be aiding the field's professionalization.

6 Poll Shows a 'Dramatic Turnaround' on School Busing

Opposition to busing dropped by 25 percent over the past decade, a new survey reveals, with most of the increase in support coming from whites and young people.

16 Senators and Bennett Clash Over Cuts in Education Budget

Complaining that the Administration wants education to bear 22 percent of its total budget cuts, several senators chastised the Secretary of Education at hearings last week.

Private-School Officials Move To Thwart 'Unfair' Provision in Tax Law

By Kirsten Goldberg

As private-school educators try to determine the effects of the 1986 Tax Reform Act on their schools, students, and teachers, efforts are under way to soften the impact of what some are calling a "flagrantly unfair" provision on scholarship aid.

The major national groups representing independent schools are preparing to lobby the Congress for exemptions from some of the new rules, and they are asking the U.S. Treasury Department for clarification of others.

But while some private-school educators are predicting disaster, others say the law's effect will be minor.

At worst, the more pessimistic predict, the tax changes could mean that:

- Private schools will have to increase financial aid to poor students significantly in order to attract and retain them. A new rule requires financial-aid recipients to pay taxes on the portion of their awards that does not go toward tuition or supplies, such as that used for room, board, and transportation expenses.

- Teaching jobs in private schools will be less attractive because of a new rule taxing the value of the free housing and meals that many private schools have traditionally offered to lure teachers to relatively low-paying jobs.

- Financial support from alumni and oth-

er donors will decline because the law reduces the tax benefits donors previously received, and eliminates the deduction for those who do not itemize.

Although most private-school associations are opposed to portions of the law, they are, however, approaching their lobbying efforts with caution.

The 99th Congress failed to act on a bill that would have corrected technical errors in last year's tax-overhaul legislation. A similar bill is likely to be introduced in this Congress, observers say, but such legislation is controversial. Some are expressing fears that it may be used to make substantive changes in the law—changes that go

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IN SUMMARY

Values and Sex Education

Values have a "strong impact" on decisions that lead to childbearing, a new study of teen-age pregnancy says, but sex education and birth-control knowledge have no effect. **Story on Page 5.**

'Hostile Climate' . . . 'Hopeful Mood'

The National Urban League's annual assessment of the state of black America says blacks are taking steps to cope with the economic, educational, and social problems facing them. **Story on Page 6.**

A Narrow Escape in Louisiana

Promising to try to restore education funds included in an earlier cut of \$125 million, Gov. Edwin W. Edwards spared the state's public schools from new cuts totaling \$113 million. **Story on Page 7.**

A Measure of Progress in South Carolina

In its first three years, the state's widely acclaimed school-reform program has produced improvements "far greater" than anticipated, according to a new report by a blue-ribbon panel. **Story on Page 7.**

Taking Stock in the Capitols

Governors in more than a third of the states have delivered state-of-the-state messages, and many of them have promised to continue the quest for school improvement. **Stories on Pages 8 and 11-13.**

Back on the Agenda

In his first major initiative this year, Secretary of Education William J. Bennett has sent back to the Congress his proposal to revise bilingual-education legislation. **Story on Page 16.**

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THE WEEK

FEDERAL

Court Declines Appeal On Desegregation Costs

The U.S. Supreme Court declined last week to hear an appeal by Lubbock, Tex., school officials seeking to force the State of Texas to share the cost of the district's desegregation program.

In papers filed with the Court last fall, Lubbock officials argued that, because the Texas Constitution previously mandated separate schools for blacks and whites, the state should bear at least half of the cost of the desegregation effort. The district estimated that the program's total cost had reached \$9 million by the 1983-84 school year.

The federal government initially charged the Lubbock district and five others in Texas with illegal segregation in *U.S. v. Texas Education Agen-*

cy, a suit filed in 1970. The case was eventually separated into six legal actions, with the state agency listed as a defendant in each suit.

Last June, the U.S. Court of Appeals for the Fifth Circuit ruled that Lubbock's efforts to force the state to assume some of the desegregation costs appeared to be an attempt to circumvent the legislature's appropriations system. The Justices' action lets stand the appellate court's ruling in the case, *Lubbock Independent School District v. Texas Education Agency* (Case No. 86-505).

E.D. Booklet To Focus On the Disadvantaged

The Education Department is developing a "handbook explaining what works in the education of the disadvantaged," Secretary of Education William J. Bennett said last week.

Mr. Bennett announced the project during a visit to Garrison Elementary School in the South Bronx,

N.Y., which he praised as "a school that works in circumstances where many believe schools cannot work."

The Secretary attributed the success of Garrison and some other inner-city schools to an emphasis on academic basics and "character" education, strong leadership from principals, "motivated teaching staffs," parental involvement, and "rigorous standards."

"We know what works in the education of the disadvantaged," he added. "We have focused too long on what has not worked. . . . Our task is to study the success stories; to publicize them; to replicate them; and to fashion public policies that foster, encourage, and reward success."

A draft of the handbook has been completed, but its publication remains "several months away," according to a spokesman for Mr. Bennett. The project is distinct from "What Works II," a planned sequel to the department's pamphlet on effective instructional practices, the spokesman said.

NATIONAL

Catholic Students To Learn About Judaism

Roman Catholic high schools in 10 dioceses nationwide will participate in an experimental curriculum designed to produce better teaching about Jews and their religion.

The National Conference of Catholic Bishops, the U.S. Catholic Con-

ference, and the Anti-Defamation League of B'nai B'rith are preparing the program.

The lesson plans, which will be integrated with existing courses, are an outgrowth of the Vatican's 1985 guidelines for Catholic teaching on Jews and Judaism, according to Eugene Fisher, executive secretary of the secretariat for Catholic-Jewish relations of the conference.

The program is designed to teach "the Jewishness of Jesus," Mr. Fisher said last week.

"About 40 percent of Catholic les-

son plans deal with Jews and Judaism, because we talk about the New Testament," he said. "We haven't always done well, and we need to implement the Vatican guidelines in the classroom."

The dioceses involved in the project will examine ways to integrate teachings on Judaism into regular lessons on the New Testament. If the project works in the pilot classes this spring, Mr. Fisher said, the materials will be published and made available to all Catholic teachers by next fall.

STATES

Conn. Survey Finds Outdated Texts in Use

More than half of Connecticut's elementary-school students are using outdated science textbooks, according to a new state study.

The two-year survey, conducted for the state board of education, was one of the largest the state had ever undertaken, according to Cathy McManus, a spokesman for the department. It examined every public school's curricula for science, mathematics, English and reading, social studies, physical education, and kindergarten.

The study notes that more than half of the elementary-school science textbooks have been revised since their publication. The median copyright dates range from 1970 in kindergarten to 1980 in the 6th grade, Ms. McManus said.

For mathematics textbooks, the median age was 4-to-5 years, she said, and some schools were using textbooks that were more than 10 years old. Such books did not emphasize problem-solving, calculator-use, or probability and statistics, she added.

"I think the board is looking at the whole curriculum survey as an equity issue," Ms. McManus said. "It's another way to identify districts that might need more state resources."

N.Y. Panel Cites Lack Of Licensed Child Care

Demand for child care in New York State far outstrips the availability of licensed providers, and the shortage hurts poor parents the most, a state panel has found.

The Commission on Child Care said in a report earlier this month that between 830,000 and 1.2 million preschool and school-age children in New York State need supervision when their parents are at work, but that fewer than 135,000 licensed day-care spaces are available statewide.

The commissioners found a "critical shortage" of trained child-care workers, which they attributed to the field's "shockingly low wages." Pay ranges from \$5.85 to \$9.14 an hour in New York City and from \$3.80 to \$5.33 an hour elsewhere in the state, the report found.

At the same time, the cost of quality child care ranges from some \$3,500 to \$10,000 a year, amounts that are too high for poor and many

moderate-income families, the gubernatorial panel noted.

Among other recommendations, the report calls for making child-care subsidies available to more families by raising the income ceiling for eligibility from 100 percent of the poverty level to 270 percent; unifying subsidies issued through a variety of programs into one child-care funding source; and using state economic-development funds to build community day-care centers.

The report is the third that the 55-member commission has produced since it was created in 1984.

Education Group To Get Iowa Inaugural Profits

An Iowa educational foundation will receive the net proceeds from the festivities marking Gov. Terry Branstad's new term, the committee overseeing the inaugural events has announced.

First in the Nation Education Foundation, a public-private partnership formed last year to help enhance the quality of education in the state, was chosen to receive the profits from last week's inaugural ball and other events. State grants and private donations provide funding for the group, according to a spokesman for the Governor.

Opposition to Busing Declines, Poll Finds

By William Snider

The proportion of Americans opposed to busing as a means of integrating the public schools has dropped by 25 percentage points over the past decade, according to Louis Harris, who characterized the findings from his most recent survey on the issue as "one of the most dramatic turnarounds [of public opinion] in recent history."

Although 53 percent of the population still opposes the mandatory busing of schoolchildren to promote racial balance, the poll found that, for the first time, "a whole host of key segments of the American public now actually favor busing," including those under age 30 and those whose children have been bused.

"One of the chief reasons for this startling change of thinking in the country is the fact that satisfaction levels with the experience of busing children have taken a sharp upward turn," the survey reported.

Seventy-one percent of all families whose children have been bused report that the experience has been "very satisfactory," compared with 54

percent when the same question was asked in February 1981.

The proportion of white families whose children have been bused and who said they were "very satisfied" with busing increased significantly, from 48 percent in 1981 to 73 percent in the most recent survey. During the same period, the percentage of black families who were "very satisfied" decreased from 74 percent to 64 percent.

The telephone survey of 1,250 families, which was conducted between Nov. 26 and Dec. 3 by Louis Harris and Associates, has a margin of error of within three percentage points of what would be found if the entire adult population were polled.

'High Satisfaction'

"Significantly, as more white families have had their children go through the busing process, they have found that their worst fears simply did not materialize," the survey reported. "Instead, the entire process was one of high satisfaction."

"Whites usually have such extreme fears about busing, that when they have a relatively normal experience, they are surprised," Gary Orfield, di-

rector of the University of Chicago's National School Desegregation Project, said last week. "Now, you see a generation of people whose kids are actually in desegregation plans and who think it's a good idea. They are ahead of the political leadership."

"When you consider that we have had an utterly hostile Administration in office for six years," he added, the shift in public opinion toward busing "seems all the more remarkable."

William Bradford Reynolds, assistant attorney general for civil rights in the U.S. Justice Department and a staunch opponent of mandatory busing, declined through a spokesman to comment on the survey's findings.

The increase in support for busing, Mr. Orfield said, could be due in part to the increased use of magnet-school desegregation plans, which rely on the creation of academically enriched programs to attract students.

The decrease in blacks' support of busing may be the result of the fact that "blacks generally do get an unequal burden in busing plans," he said. However, the poll found that, overall, blacks still favor busing at nearly twice the rate of whites—by

1986 Demographics on School Busing

	Favor	Oppose	Not Sure
TOTAL	41%	53%	6%
Age 18-24	60	34	6
25-29	51	43	6
30-49	37	58	5
50-64	35	59	6
65 and over	26	63	11
White	36	57	7
Black	66	33	1
Hispanic	58	39	3
White Protestant	32	61	7
White Catholic	43	51	6
White Moral Majority	30	60	10
Republican	36	60	4
Democrat	43	49	8
Independent	41	52	7

Source: Louis Harris and Associates

66 percent, compared with 36 percent.

One poll finding that Mr. Orfield called "extremely interesting" is that 58 percent of Hispanics favor busing, while only 39 percent oppose it.

"I've never seen that much support for busing among Hispanics," said Mr. Orfield, who last year released a study reporting that Hispanic children are becoming increasingly segregated in the nation's public schools. (See *Education Week*, Nov. 26, 1986.)

The survey also found that no issue since the Vietnam War has been split so clearly along generational lines.

Support for busing is highest among 18- to 24-year-olds, 60 percent of whom favor it; support among older age groups falls off rapidly.

A recent survey of 204,491 college

freshmen at 372 institutions, conducted by the American Council on Education and the Cooperative Institutional Research Program at the University of California at Los Angeles, reported similar conclusions.

Despite finding that college freshmen have more conservative attitudes than their predecessors on a range of issues, the survey found that the current generation of students—the first to be exposed to busing throughout their schooling—gave it a record level of support.

Thus, while only 25.3 percent listed "promoting racial understanding" as an "essential" or "very important" personal goal—a record low for the category—53.6 percent agreed that "busing to achieve racial balance in schools is all right," according to "The American Freshman: National Norms for Fall 1986."

National Endowment for the Humanities

Summer Institute for Teacher Educators

JUNE 1-21, 1987

Middlebury College invites applications from teacher educators to attend a summer institute on American federalism. Participants will study recent developments in teaching history and examine ways to integrate plans to collaborate with humanities scholars and secondary teachers to improve the training of prospective teachers.

Faculty members with at least three years of full time teaching experience who teach prospective social studies teachers are encouraged to apply by March 1, 1987. There is a \$2,100 stipend.

For application information, please contact: Richard Dollase, Project Director, Middlebury College, Middlebury, VT 05753.

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Report Applauds Activism of Blacks

By William Snider

WASHINGTON—Despite a deepening of the economic, educational, and social problems it faces, the black community "enters 1987 in a hopeful mood," according to the National Urban League's annual report on "The State of Black America," released here last week.

"In the face of federal budget cuts and few resources, black individuals and organizations are implementing activities to deal with problems like teen-age pregnancy, crime, drug abuse, and inadequate education," said John E. Jacob, the league's president, in releasing the report.

He called these efforts by blacks to address problems within their communities "an important reason for black survival in this hostile climate, and for our hopes for the future."

The league is currently in the first year of its own nationwide education initiative, which is designed to bring about "significant increases in the level of involvement of black adults in activities that assist black students in improving their achievement levels."

A Range of Services

The league's 113 affiliates are providing a wide range of educational services, including:

- Tutoring, enrichment, and test-review courses in basic subject areas.
- Guidance programs, career counseling, and mentor relationships to encourage academic achievement.
- Programs encouraging parental monitoring of students' daily schoolwork and overall academic progress.
- Black history and cultural programs to instill pride and positive feelings of self-worth in black youths.

• Early-childhood-development programs to expose preschoolers to technological and scientific concepts.

Other community organizations are involved in similar "self-help" efforts, officials said, to show that positive results can be achieved—and to counter the fact that, as one black leader put it, "the sheer massiveness of the problems may have become a source of intimidation to policymakers and educators."

According to Sharon P. Robinson, director of instruction and professional development for the National Education Association, such intervention "needs only to be targeted to 4 percent of the nation's school districts to have a national impact." In one of 10 papers commissioned for the annual report, Ms. Robinson said that more than 80 percent of black children can be found in those few districts.

A 'Hostile Climate'

But educational progress alone is not enough to resolve the problems facing black America, the report concludes, because blacks still face a "hostile" political and social climate.

"There is no escaping the conclusion that a major impact of six years of Reagan Administration leadership on the economy has been to increase racial inequality and exacerbate the economic difficulties of blacks," said David Swinton, director of the Southern Center for Studies in Public Policy at Clark College.

"We can't forget that for six years and more, Americans have been told that racism is a thing of the past," Mr. Jacob said. "The result is a national climate of selfishness, and a failure of government to take a positive role in ending racism and disadvantage."

Mathematics Test Scores Show U.S. Is 'Nation of Underachievers'

Continued from Page 1

lum change, beginning in the early grades," said F. Joe Crosswhite, professor of mathematics education at Northern Arizona University and former president of the National Council of Teachers of Mathematics.

"We intend to set national criteria of excellence, without dictating to schools how they should be achieved," he said.

Although the proposed changes would require "a substantial

amount of money and a commitment over a long period of time," Mr. Crosswhite said, reform is achievable.

"It is quite possible the country is willing to make that commitment," he said.

The commitment will come as the public recognizes the economic need for improved mathematics skills, added John A. Dossey, current president of the N.C.T.M.

"Math will play a more important role in future life, in the world of

work that is becoming more technological," he said. "Math skills are a key to economic security and a chance for advancement."

The two-day symposium was sponsored by the Mathematical Sciences Education Board, a branch of the National Research Council established in 1985 to examine ways to improve math education in the United States.

Recommendations from the meeting will be sent to federal, state, and local policymakers, according to

Shirley A. Hill, president of the board.

The board is also developing a curricular framework and studying possible improvements in mathematics testing, she added.

Deceptive Explanations

Conference participants expressed a belief that other types of reform, such as longer periods of instruction and reduced class sizes, would be unlikely to raise student achievement.

Such factors, often cited as causes for the poor performance of U.S. students, are deceptively simplistic, according to one of the reports released last week.

Japanese math classes average about 40 students, it showed, while classes in the United States are at the international average of 26.

In addition, the report found that American 8th graders spend about 144 hours a year on mathematics—a figure that exceeded the time allotted in roughly two-thirds of the countries studied.

The American school-reform movement of recent years has failed to address the basic problem, according to Mr. Dossey.

"Legislation mandating more years has had positive effects, but a mandate does not do it," he said. "More years do not necessarily mean more content."

In addition, he said, the reform movement's emphasis on tests has had a negative impact.

"They take more time away from instruction, and they test the wrong things," he said.

International Study

The studies released last week found that, when compared with students in other countries, American students have lower expectations for math performance. "To do poorly in math in this culture is accepted," Mr. Dossey said. "This is communicated to students in a variety of insidious ways."

One of the most important ways is through the curriculum, which, according to one of the new studies, "lacks challenge and vitality."

"In school mathematics, the United States is an underachieving nation, and our curriculum is helping to create a nation of underachievers," the report states.

Entitled "The Underachieving Curriculum: Assessing U.S. School Mathematics From an International Perspective," the report is based on the Second International Mathematics Study, a 20-nation assessment of 12,000 8th-graders and 12th-graders in college-preparatory math classes.

Results from the 1982 assessment were published in "What Works," the Education Department's 1986 booklet on effective schooling.

They showed that U.S. 8th graders ranked at about the world average in mathematics ability, while 12th graders ranked well below the average. Japanese students ranked at the top in each grade. (*See Education Week, March 19, 1986.*)

American students perform poorly on the international comparisons, the study found, because the curriculum does not demand that they master topics thoroughly and move on to more advanced topics.

"Content is spread throughout the curriculum in a way that leads to very few topics being intensely pursued," the report states. "Goals and expectations for learning are diffuse

and unfocused. Content and goals linger from year to year, so that curricula are driven and shaped by still-unmastered mathematics content begun years before."

Instead of a "spiral curriculum," in which topics are repeated so that each lesson builds on a previous lesson, schools should develop a more sequential curriculum that allows students to progress to higher-level topics, educators suggested.

"We teach addition through the 8th and 9th grades," said Edgar L. Edwards Jr., associate director for mathematics of the Virginia State Department of Education. "That's too long to be dealing with something like that. We just continue to go around on a spiral. We never seem to get off anything."

The sequential curriculum would place a greater burden on teachers, who can "get away with" inadequate teaching now, he said, because they know the same topic will be covered the following year.

"This will place a responsibility on someone to teach something—really teach it, to mastery," Mr. Edwards said.

Increasing the use of computers and calculators would enable students to move on to topics that involve higher-order problem-solving skills, instead of spending their time learning computation, said James T. Fey, a professor of mathematics and curriculum at the University of Maryland.

"We've been trying hard to get kids to acquire skills that are rapidly becoming outmoded," he said. "In order to get students to solve problems, we've got to find a way to avoid endless preparation in a variety of low-level skills. Technology offers that opportunity. We've got to capitalize on it."

Opportunity To Learn

The math educators also urged schools to re-examine the system of sorting students into different curricular tracks.

According to the international study, the current curriculum "fails to fairly distribute opportunities to learn to children."

"As early as the junior-high-school grades, tremendous differences are created in what mathematics U.S. children have the opportunity to learn and, therefore, in what they are able to achieve," the report states.

This is particularly true for girls and for minority students, according to Shirley M. Malcom, program head of the American Association for the Advancement of Science's office of opportunities in science.

"There are a lot of kids in schools in this country whose performance says they are slow, that they don't know things," Ms. Malcom said. "A lot of it is because they were never taught. Particularly in inner cities, courses are not provided, teachers have low expectations. What else do you expect to get but what you see?"

But the system of tracking allows students who perform well to move to more advanced subjects, said Scott D. Thomson, executive director of the National Association of Secondary School Principals. "Kids start out slow and end up fast," he said. "It happens all the time."

Why Try?

In particular, the conference participants said, the elementary-

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Achievement

Percent of Items Correct In Tests to 8th Graders

Country	Arithmetic	Algebra	Geometry	Statistics	Measurement
Belgium (Flemish)	58%	53%	43%	58%	58%
British Columbia	58	48	42	61	52
England and Wales	48	40	45	60	49
Finland	48	44	43	58	51
France	58	55	36	57	60
Hungary	57	50	53	60	62
Israel	50	44	36	52	46
Japan	50	60	58	71	69
Luxembourg	45	31	25	37	50
Netherlands	59	51	52	66	62
New Zealand	46	39	45	57	45
Nigeria	41	32	26	37	31
Ontario	55	42	43	57	51
Sweden	41	32	39	58	46
Thailand	43	38	38	45	48
United States	51	43	38	57	42

Percent of Items Correct In Tests to 12th Graders

Country	Sets and Relations	Number Systems	Algebra	Geometry	Elementary Functions and Calculus	Probability and Statistics
Belgium (Flemish)	72%	48%	61%	42%	40%	43%
British Columbia	48	43	47	30	21	36
England and Wales	61	59	66	51	58	64
Finland	77	57	69	48	55	58
Hungary	35	28	45	30	25	29
Israel	51	46	60	35	45	36
Japan	79	68	78	60	66	70
New Zealand	72	51	57	43	48	58
Ontario	69	47	57	42	46	46
Sweden	58	62	60	49	51	64
Thailand	52	33	38	28	26	34
United States	58	40	43	31	29	40

SOURCE: The Second International Mathematics Study.

Opportunity To Learn

Percent of Items Taught In or Before the 8th Grade

Country	Arithmetic	Algebra	Geometry	Statistics	Measurement
Belgium (Flemish)	78%	72%	31%	39%	84%
British Columbia	83	84	48	47	77
England and Wales	78	63	54	69	80
Finland	76	70	39	52	70
France	86	87	43	50	92
Hungary	91	91	80	86	97
Israel	71	79	43	52	63
Japan	85	83	51	78	95
Luxembourg	79	52	35	32	82
Netherlands	82	73	67	32	82
New Zealand	67	62	59	60	70
Nigeria	79	72	65	64	71
Ontario	67	70	49	61	84
Sweden	86	45	35	47	67
Thailand	66	83	57	58	86
United States	87	69	44	73	72

Percent of Items Taught In or Before 12th-Grade College-Preparatory Classes

Country	Sets and Relations	Number Systems	Algebra	Geometry	Elementary Functions and Calculus	Probability and Statistics
Belgium (Flemish)	91%	80%	82%	82%	58%	46%
British Columbia	85	75	82	50	32	29
England and Wales	48	74	68	69	85	87
Finland	98	90	92	79	87	87
Hungary	45	55	87	74	67	27
Israel	38	58	70	49	79	39
Japan	95	80	100	89	92	82
New Zealand	85	90	93	75	93	88
Ontario	62	60	83	52	83	33
Sweden	60	87	90	66	85	75
Thailand	61	75	78	83	63	90
United States	83	83	86	82	54	45

SOURCE: The Second International Mathematics Study.

Long Overlooked, Special Education Is Becoming a Topic of Reform

Continued from Page 1

think people know how to deal with it right now," said M. Stephen Lilly, dean of the college of education at Washington State University.

At issue, he and others say, are broad-ranging quandaries that have long divided practitioners, such as the degree of training needed to teach special education, and whether certification should be "generic" or cover the specific handicaps or levels of disability to be taught.

In addition, they warn, questions arising from the general teacher-reform movement could cloud any attempt to delineate what it takes to be a special educator. For example: Should a proposed national teacher-certification board certify special educators separately? And, if so, should they be required to have a graduate degree, as some have proposed?

Moreover, the doubters ask, in a field experiencing widespread shortages, would more stringent preparation requirements discourage students from becoming special educators?

Reform Moves Needed

Most educators are in agreement, however, on the need for equal reform consideration.

They note that, in the most recent U.S. Education Department statistics—those for the 1984-85 school year—more than 1.8 million students were classified as learning-disabled. That represents an increase of more than a million learning-disabled students over the past decade.

And, in an era in which the "at risk" child will be education's most pressing—and growing—problem, these educators point out, those who teach the learning-disabled population will need to be especially well prepared.

But widespread shortages of trained special-educators have al-

ready prompted some states to increase the number of emergency or provisional certificates issued to new teachers in the field.

In a 1986 study, the University of Maryland's Institute for the Study of Exceptional Children and Youth found, for example, that 13 of the 41 states and territories responding had issued an increased number of provisional certificates since 1982. Nineteen other states granted the same number of such certificates over the four years studied. Only seven reported a decrease.

In addition, the continuing debate over whether regular classroom teachers can or should tackle the special problems of the disabled was given new fuel last November, when the Education Department's assistant secretary for special education and rehabilitative services, Madeleine Will, issued a report advocating greater efforts to "mainstream" handicapped children.

"It is hard to find anyone who has anything good to say about our current situation," writes James J. Gallagher in a report published last December in the *Journal of Learning Disabilities*. A professor of education at the University of North Carolina at Chapel Hill, Mr. Gallagher has been a leading voice in the movement to extend the current reform discussions to include special education.

But special education is a field, as Mr. Gallagher notes in his report, that has been characterized as a "maelstrom of disagreements, arguments, and disension." And, characteristically, some practitioners do not see a pressing need for reform.

These dissenting voices note that, because of special education's federal mandate, extensive monitoring system, and evolving knowledge base, the field may actually be in better shape than regular education.

"We've been going through years and years of changes," said James Kahn, a professor of special educa-

tion at the University of Illinois at Chicago. "It's really not new for us to look at what types of programs are available."

Holmes Group's Report

But the louder voices are calling for change. And many express frustration that, of the five major reports on educational reform to emerge this decade, only one—the Holmes Group consortium's "Tomorrow's Teachers"—mentions the preparation of special-education teachers.

That document recommends, among its other proposals, that all career teachers be trained to teach children with special needs. "Those who would specialize in the teaching of special populations would be expected to obtain additional knowledge and understanding" through advanced graduate work, the report states.

"We recognized that there were certain fields—early childhood, special education, and vocational education—that had some peculiar needs and differences," said John Palmer, a former vice chairman of the Holmes Group and education dean at the University of Wisconsin at Madison. To make more specific recommendations for special education, he said, "would require another book or another chapter."

Longer Training?

But even that single recommendation has puzzled special educators. Since the report also advocates abolishing the undergraduate education major, requiring regular classroom teachers to study an additional year for an education degree, would the special educator then be required, they ask, to train for six years or more?

"It has tremendous implications for the field," said Ann Nevin, president of the C.E.C.'s teacher-education division.

Currently, state and university requirements for special-educator

training vary widely. Some states and institutions require only an undergraduate degree, but others require a master's degree. In still others, only an undergraduate degree in basic education with added coursework in specific handicaps is required.

If more colleges and universities move to make special education a graduate program, some educators warn, the longer training time may discourage potential students and exacerbate a shortage in the field.

The Education Department estimated in 1983 that 4 percent of all special educators were uncertified. And the University of Maryland study estimates that most states and territories face future personnel shortages as well.

"There is some question as to whether people will go through [the extended training]," said Diane Merchant of AACTE. "I don't think the pay is an inducement to get people to go another year."

The newly formed committee of the association is expected to issue its position paper on the preparation of special-education teachers by the spring.

'Generic' Certification

Further complicating the issue are questions of whom should be certified to teach what handicap or disability. Those who study the field say an increasing number of states are allowing "generic" and "cross-categorical" certifications. A "generic" certificate allows a teacher to teach several types of learning-disabled students, from those with dyslexia to those with other mild handicaps. A "cross-categorical" teacher is certified in several specific handicapped categories.

Traditionally, special-education certificates have been strictly "categorical." And the trend toward looser certification categories has sparked intense debate.

While the practice provides added flexibility, said Margaret J. McLaughlin, who surveyed state special-education administrators for the University of Maryland study, "the criticisms and concerns are that it has gone too far."

"It's impossible in four years," she

said, "for a person to have all the coursework and the range of experience needed" to teach multiple types of handicapped students.

Future Directions

When the newly reconstituted Holmes Group sits down later this year, Mr. Palmer said, special education may be a topic of discussion.

"I don't have any doubt that this will be among the things that some institutions will be looking at," he said. Some Holmes Group members, he pointed out, have already begun revamping their special-education programs in line with the group's recommendations.

Likewise, the question may be addressed by the 33-member panel charged last September with establishing the independent national board proposed by the Carnegie Forum to set professional standards for teacher certification.

Said Margaret J. Lathlaen, a panel member and one of the 10 finalists in NASA's "Teacher in Space" competition: "We have to decide Do we certify only teachers or other educators and administrators as well? Is it a board that wants to separate certifications for vocational education, foreign languages, bilingual education, etc.?"

"One of my thoughts, when the board is established, is getting representation for special education," she added.

Ms. Lathlaen, a teacher of gifted children, said that many of the basic recommendations made in the Carnegie report, "A Nation Prepared: Teachers for the 21st Century," also apply to special education.

Another landmark report, the National Governors' Association's "Time for Results," stresses reforms that address the problems of all students, including those "at risk"—a population that often crosses over into the realm of special education. And, in fact, a number of states have, since 1982, examined and made changes in their certification standards for special education as part of more general education-reform packages, according to the University of Maryland study.

As Ms. Merchant pointed out: "There are a lot of people out there who say a good teacher is a good teacher—period."

Citing Poor Math Performance of U.S. Students, Educators Seek Major Overhaul of Curriculum

Continued from Preceding Page

school curriculum must also be strengthened if the standards for student performance are to be raised.

"American kids think they're good in math," said Harold W. Stevenson, professor of psychology at the University of Michigan and co-author of three studies released here last week. "Parents think they're doing well, too."

The studies on which Mr. Stevenson collaborated found that the math performance of U.S. 5th graders compared unfavorably with that of comparable students in Japan and Taiwan. The studies also disclosed a possible factor in the achievement lag: Americans tend to believe math performance is dependent on native ability, while the Japanese and Taiwanese believe that performance can improve with effort.

A belief in the pre-eminence of native ability eliminates American students' incentive to work at mathematics, Mr. Stevenson asserted.

"Those who are average or below average must suffer," he said. "They say, 'Why try?' But it's a bad thing for the good kids, too. They say, 'Why do I have to work at math?'"

One of the University of Michigan studies, which examined classrooms in the three countries, found that teachers in Taiwan and Japan "are more intensely involved in mathematics than are their American counterparts."

Unlike American classrooms, where children frequently work alone at their desks or in unrelated activities, Taiwanese and Japanese teachers spend more time imparting information to their classes, the study found.

As a result, it concluded, American students receive less instruction in math than students in the other countries.

To counteract these trends, educators at the conference urged a greater emphasis on math instruction in the early grades, including the use of math specialists as early as the 4th grade.

"Reading is the priority at the ele-

mentary school," said Mr. Dossey. "Math should be at least as important."

Teachers should also have more time for preparation, as teachers in other countries have, so that they are better able to challenge their students in math classes, conference participants said.

"We're asking teachers to do an impossible task," said Dorothy Strong, director of mathematics for the Chicago Public Schools. "No business that planned to produce results would ask its employees to do that."

But adding preparation time would be costly, noted Mr. Thomson of NASSP. "There's no question that teaching four hours a day instead of five has advantages," he said. "But it's expensive. It would add 20 percent to the cost of salaries."

"The Underachieving Curriculum" is available for \$8, plus \$1 postage, from Stipes Publishing Company, 10-12 Chester St., Champaign, Ill. 61820.

The Michigan studies are being prepared for publication.

Schools Make Own Power, Heat

Officials of the Boston school district expect to save up to \$400,000 in heating and electric costs this year by installing what they say is "state of the art" power-generating equipment in five of the district's 130 buildings.

By the end of this month, cogeneration units—which simultaneously produce electricity and heat—will be switched on at four schools, according to Carl Gee, the district's energy manager.

Later this winter, he said, English High School, a 10-story high-rise building, will begin to be heated in part with a pump that taps warmth from a geologic formation 1,000 feet beneath the building.

The four cogeneration units are similar to automobile engines, but they are powered by natural gas instead of gasoline, Mr. Gee explained.

Waste heat is collected by devices similar to automobile radiators, and

is channeled into the buildings' heating systems, where it supplements steam purchased from the Boston Edison Company.

At the English School, two 1,000-foot-deep wells were bored next to the building. A pump draws heat from beneath the earth's surface and circulates it through the modern, office-like structure, Mr. Gee said.

The \$175,000 project at the English School was financed by federal and state energy grants, Mr. Gee said.

The cogeneration units at the four other schools, he added, are owned by a local energy company and are being purchased by the school committee over a 10-year period.

The city's school committee is expected to approve the installation of energy-saving equipment at 14 additional schools during the coming year, Mr. Gee said.

—T.M.